



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:  
OSB1999-0286

January 12, 2000

Fred Patron  
U.S. Department of Transportation  
Federal Highway Administration  
The Equitable Center, Suite 100  
530 Center Street NE  
Salem, OR 97301

Re: Biological Opinion for the Westport Slough (Point Adams Rd) Bridge Replacement

Dear Mr. Patron:


The National Marine Fisheries Service (NMFS) has completed the enclosed the Biological Opinion (Opinion) that addresses your proposed project to replace the Westport Slough (Point Adams Rd) bridge near Clatskanie in Columbia County, Oregon. This project is described in your Biological Assessment (BA) submitted with your request for consultation. The Federal Highway Administration is the lead federal agency and Columbia County is the designer and builder of the project.

This Opinion considers the potential effects of the project on the lower Columbia River (LCR) steelhead, LCR chinook salmon, Columbia River (CR) chum salmon, southwest Washington/lower Columbia River (SW/LCR) cutthroat trout, and the lower Columbia River/southwest Washington (LCR/SW) coho salmon. These species occur in the project area. The NMFS concludes that the proposed action is not likely to jeopardize the subject species, or destroy or adversely modify proposed critical habitat. Included in the enclosed Opinion is an incidental take statement with terms and conditions to minimize the take of the subject species.



If you have any questions regarding this letter, please contact Nancy Munn of my staff in the Oregon State Branch Office at (503) 231-6269.

Sincerely,



William Stelle, Jr.  
Regional Administrator

cc: Elton Change - FHWA  
Rose Owens - ODOT Environmental  
Jeff Smith - ODOT Environmental (attachment)  
Richard Beck - ODOT Region 1  
Art Martin - ODFW  
Laura Todd - USFWS  
Bill Davis - ACOE  
Jennifer Horn - DEA (attachment)

Endangered Species Act - Section 7  
Consultation

Biological and Conference Opinion

Westport Slough (Point Adams Road) Bridge Replacement  
Columbia County

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: January 12, 2000

Refer to: OSB1999-0286

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## I. BACKGROUND

On July 22, 1999, the National Marine Fisheries Service (NMFS) received a Biological Assessment (BA) and request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation for a bridge replacement at Point Adams Road in Columbia County, Oregon. The Westport Slough (Point Adams Road) bridge spans Beaver Slough and provides access to Anunde Island. The bridge is located about three miles northwest of Clatskanie. The FHWA is the lead agency and Columbia County has designed the project and will administer the construction contract. This Biological Opinion (Opinion) is based on the information presented in the BA and the result of the consultation process.

FHWA/ODOT has determined that the lower Columbia River steelhead (*Oncorhynchus mykiss*), lower Columbia River chinook salmon (*O. tshawytscha*), Columbia River chum salmon (*O. keta*), southwest Washington/lower Columbia River (SW/LCR) cutthroat trout (*O. clarki*), and lower Columbia River/southwest Washington (LCR/SW) coho salmon (*O. kisutch*) may occur within the project area. Since the SW/LCR cutthroat trout is proposed and the LCR/SW coho salmon is a candidate for listing, this Opinion serves as the NMFS Conference Opinion until such time that NMFS (or the U.S. Fish and Wildlife Service in the case of cutthroat trout) publishes a final listing decision. Also, this Opinion serves as the NMFS Conference Opinion until such time that NMFS publishes a final critical habitat rule for the above listed species.

FHWA/Columbia County is proposing to replace the existing wooden bridge on Point Adams Road and replace it with a new concrete structure. The Point Adams Road Bridge spans Beaver Slough, the historic channel of the Clatskanie River. The current Clatskanie River channel was excavated several hundred feet east of the Point Adams Road Bridge, creating Anunde Island. The Point Adams Road Bridge is the only vehicular access to two residences on Anunde Island. The existing structure is functionally and structurally substandard and will be demolished and replaced.

The effects determination was made using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). FHWA/Columbia County determined that the proposed action was likely to adversely affect the listed and proposed anadromous fish species.

This Opinion reflects the results of the consultation process. The consultation process has involved a site visit and correspondence and communications to obtain additional information and clarify the BA. As appropriate, modifications have been made to the original proposal to reduce impacts to the indicated species. This has included eliminating paving on Anunde Island.

The objective of this Opinion is to determine whether the action to replace the Point Adams Road Bridge is likely to jeopardize the continued existence of the listed and proposed fish species or destroy or adversely modify proposed critical habitat.

## **II. PROPOSED ACTION**

Replacement of the existing Point Adams Road Bridge will require removal of 27 wood piles, construction of a temporary work bridge, and placement of a three-span concrete slab bridge. The existing bridge is a single lane structure, 125 feet long and 10.5 feet wide. Currently, 27 wooden support piles are in the water.

The proposed new bridge will be a 16-foot wide, single lane structure. It will be a three span, pre-cast, pre-stressed concrete slab structure. The new bridge will be on the same alignment as the existing bridge. The construction of the new bridge consists of driving steel pipe piles, constructing reinforced concrete pile caps, setting the concrete slabs on the caps, constructing the bridge rail, and paving the surface. The center span of the new bridge will be the same height as the center span of the existing bridge. The middle bents (bents 2 and 3) will be in the water. The end bents will be raised slightly to reduce the steepness of the end spans. The concrete spans would be supported on galvanized steel pipe piles and concrete caps. The bridge and approaches will be paved with an asphaltic concrete wearing surface (ACWS) to the end of the guardrail.

Fill will be placed behind the wingwalls at the end bents. No riprap will be used. The turn-around area on the island will be graveled. All work will be constructed during the in-water work period (July 15<sup>th</sup> to September 15<sup>th</sup>) as established by the Oregon Department of Fish and Wildlife (ODFW).

### **Temporary Work Bridge**

A temporary work bridge will be required for the demolition of the existing bridge and construction of the new bridge. The work bridge could either be constructed adjacent to the existing bridge or along the same alignment. The work bridge would consist of concrete, steel or untreated timber members. A typical work bridge consists of 15-foot to 20-foot long spans consisting of timber piles, timber caps, and timber decking. This would require about 30 temporary piles in the water. No fill material will be required in the water. A pedestrian access bridge will be worked into the temporary work bridge.

### **Removal of the Existing Bridge**

The contractor will be required to remove the existing bridge by lifting individual members or groups of members from the bridge and placing them on the work bridge or land. This would prevent large sections of the bridge from falling into the slough. The existing timber piles will either be pulled out in

one piece or broken off at the streambed. Any portions of broken piles remaining above the streambed will be cut at the streambed.

### **Staging**

The existing bridge will be closed to both vehicles and pedestrians during construction. Pedestrians will have access to the island via the temporary work bridge as described above.

### **Habitat Enhancement**

As mitigation for the project, Columbia County will contribute \$1500 toward a chum restoration project in the Chinook River, Washington. The restoration effort is lead by Sea Resources. The effort will restore 850 acres of freshwater estuary to provide critical rearing habitat to salmonids, and will be the largest freshwater marsh in the lower Columbia River.

## **III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT**

The lower Columbia River (LCR) steelhead Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on March 19, 1998 (63 FR 13347). Biological information on LCR steelhead may be found in Busby et al. (1995, 1996). Critical habitat was proposed for the LCR steelhead on February 5, 1999 (64 FR 24998).

The LCR chinook salmon ESU was listed as threatened under the ESA by the NMFS on March 24, 1999 (64 FR 14308). Biological information can be found in Myers et al. (1998). Critical habitat was proposed for the LCR chinook salmon on March 9, 1998 (63 FR 11482).

The Columbia River (CR) chum salmon ESU was listed as threatened under the ESA by the NMFS on March 25, 1999. Biological information on the CR chum salmon can be found in Johnson et al. (1997). Critical habitat for the CR chum salmon was proposed March 10, 1998 (63 FR 11774).

The southwest Washington/lower Columbia River (SW/LCR) cutthroat trout was proposed for listing as threatened by the NMFS on April 5, 1999. Biological information on the SW/LCR cutthroat trout can be found in Johnson et al. (1999). Critical habitat has not been proposed. Pending the publication of a Federal Register notice, the U.S. Fish and Wildlife Service will assume jurisdiction over all cutthroat trout. Projects such as this that are currently in consultation will complete their consultation requirements with the NMFS.

The lower Columbia River/southwest Washington (LCR/SW) coho salmon also occur in the project area. LCR/SW coho salmon was designated as a candidate species on July 25, 1995 (60 FR 38011).

This ESU is not likely to become listed prior to the completion of this project, therefore it is not considered further in this Opinion.

Proposed critical habitat consists of all waterways and naturally impassable barriers and several dams that block access to former habitats. In the proposed rules, NMFS recognizes that estuarine habitats are critical and has included them in the designation. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter.

#### **IV. EVALUATING PROPOSED ACTIONS**

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: (1) Defining the biological requirements and current status of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any cumulative effects. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for spawning, rearing and migration of the proposed and listed species under the existing environmental baseline.



## **A. Biological Requirements**

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection (Busby et al. 1996, Johnson et al. 1997, Johnson et al. 1999, Myers et al. 1998, Weitkamp et al. 1995) and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for the listed species to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration, and for chum salmon, spawning. The current status of the listed species, based upon their risk of extinction, has not significantly improved since the species were listed and, in some cases, their status may have worsened.

## **B. Environmental Baseline**

The biological requirements of the listed and proposed salmon species are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience, including the condition of any designated critical habitat (over those currently available under the environmental baseline). Any further degradation of these conditions would have a significant impact due to the amount of risk the listed salmon presently face under the environmental baseline.

The identified action will occur within the range of LCR steelhead, LCR chinook salmon, CR chum salmon, and the SW/LCR cutthroat trout. The current range-wide status of the identified ESUs may be found in Busby et al. (1996), Johnson et al. (1997), Johnson et al. (1999), Myers et al. (1998), Weitkamp et al. (1995). The defined action area is the area that is directly and indirectly affected by the action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activities includes the immediate watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the bed

and bank of Beaver Slough extending 500 feet upstream of the project site and 1000 feet downstream of the site. Other areas of the Clatskanie River watershed and Beaver Slough are not expected to be directly or indirectly impacted.

The action area consists of the slow moving, low gradient channel of Beaver Slough. The slough is the historic channel of the Clatskanie River. The current Clatskanie River channel was excavated several hundred feet east of the Point Adams Road Bridge, creating Anunde Island. The slough is maintained through dredging and diking but does not completely reconnect with the Clatskanie River on the south side of the island.

Water levels in the slough fluctuate with the daily influence of tides and the Columbia River. Water quality in the slough is degraded at times because of the incomplete flushing. Beaver Slough is not included in the 1998 Oregon Department of Environmental Quality 303(d) list for water quality limited waters, although water temperatures are high in the summer. Land use in the Clatskanie watershed is primarily timber management.

Fish present in the action area include native runs of coho salmon, steelhead, searun cutthroat trout, chum salmon and chinook salmon. Adult steelhead migrate past the project site in late fall to upstream spawning areas. Juvenile steelhead migrate downstream in the spring and may also rear at the site. Adult chinook salmon migrate past the project site from late August to early November. Juvenile chinook probably rear in the river as they slowly migrate downstream. The action area provides migratory habitat for chum salmon, and perhaps limited rearing habitat. Cutthroat trout could be in the action area year round. The revised in-water work period for this action is July 15 to September 15.

Based on the best available information on the current status of the listed salmonids range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area (as described in the BA), NMFS concludes that the biological requirements of the identified ESUs within the action area are not currently being met. For example, numbers of CR chum salmon are substantially below historic numbers (Streamnet database). Chum salmon in the Columbia River basin are considered to be at significant risk of extinction or becoming endangered (Johnson et al. 1997). A major impact for this ESU has been the barriers created by the mainstem Columbia River hydropower system. However, substantial habitat loss in the estuary and associated areas is presumably an important factor in the decline (Johnson et al. 1997). River basins have degraded habitats resulting from agricultural and forestry practices, water diversions, urbanization, mining, and severe recent flooding. The trends are similar for the other listed and proposed salmonids within the action area, and the role of habitat loss and degradation has also been a significant factor. Within the Clatskanie River basin, the following habitat indicators are either at risk or not properly functioning within the action area: summer water temperatures, turbidity/sediment, chemical/nutrient contamination, substrate, large woody debris/structure, pool frequency, pool quality, off channel habitat, refugia, width/depth ratios, floodplain connectivity, peak/base flows, drainage network increase, road density/location, and disturbance

history. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of listed and proposed salmonids.

## **V. ANALYSIS OF EFFECTS**

### **A. Effects of Proposed Actions**

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). After determining the potential impacts of the action, efforts were made to avoid, minimize, and mitigate these impacts. Then, the net effects of action are expressed in terms of the expected effect – restore, maintain, or degrade – on aquatic habitat indicators in the project area. This analysis is summarized below.

The proposed action has the potential to cause the following impacts to the listed salmonids or proposed critical habitat:

- Removal of the existing timber pilings may injure or displace rearing salmonids while the pilings are being cut off and removed. This activity may also interfere with fish passage. This activity will increase turbidity and suspended solids in the short term, which could interfere with rearing and migratory habitat downstream and upstream of the project.
- Pile driving of temporary and permanent piles could kill rearing fish, increase turbidity and interfere with fish passage. The most likely response would be a displacement of fish. The noise vibration of the pounding would likely cause them to avoid the area (Feist 1991).
- Operation of machinery on and near the bridge will increase the risk of a hazardous spill in the slough and associated wetlands.
- Pouring concrete has the potential to cause acute toxicity problems in the slough if spilled.
- Project activities will disturb low quality riparian habitat. The slough currently has temperature and water quality problems, partially due to the low quality of the riparian habitat. This project will cause temporary impacts to this habitat (increased sedimentation, less vegetation, etc) and will not improve habitat over the long term.

The effects of these activities on listed fish and aquatic habitat factors have been limited by utilizing construction methods and approaches that are intended to avoid or minimize impacts. These include:

- All in-water work will be scheduled during the revised in-water work period of July 15<sup>th</sup> to September 15<sup>th</sup>, as agreed to by Oregon Department of Fish and Wildlife, to minimize impacts to fish. During the in-water work period, it is unlikely that chum salmon or chinook salmon will

be at the project site. However, steelhead and cutthroat trout may be present and killed or displaced by project activities

- An erosion control plan will be implemented that includes silt fences and sediment filters and routine monitoring.
- Hazardous materials, including fuel, will not be stored or transferred within 300 feet of the Beaver Slough or other waterbody. No staging areas or parking areas will occur within 150 feet of the slough.
- The direct discharge of sediments or pollutants into the stream will be minimized to the greatest extent practicable. Measures described in the terms and conditions of the incidental take statement minimize the risk.

The action also includes habitat restoration to mitigate for the in-water impacts during project construction. No opportunities exist at the project site to improve spawning or rearing habitat for species such as chum. The proposed mitigation site located across the Columbia River in Washington State will be able to provide spawning and rearing habitat. Columbia County will contribute \$1500 toward an ongoing habitat restoration project in the Chinook River, Washington. The restoration project will restore freshwater marsh habitat and increase salmonid rearing capacity.

For the proposed action, the NMFS expects that the effects will tend to maintain or restore each of the habitat elements over the long term, greater than one year. However, in the short term, a temporary increase of sediments and turbidity and disturbance of riparian vegetation is expected. Fish may be killed, or more likely, be temporarily displaced during the in-water work (driving and extraction of piles). The potential effects from the sum total of proposed actions are expected to restore or maintain the function of salmonid habitat conditions within the ESU.

## **B. Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has not been finally designated for the proposed species; however, it is likely to include the entire project area based on the proposed rules published on May 10, 1999 (64 FR 24998, 63 FR 11482, 63 FR 11774).

The proposed action will affect proposed critical habitat. NMFS expects that the net effect of the proposed action will tend to maintain or restore properly functioning conditions in the watershed under current baseline conditions over the long term. In the short term, temporary increase of sediments and turbidity and disturbance of riparian habitat is expected. In the long term, no net impact to in-stream or riparian habitat will occur. NMFS does not expect that these actions will diminish the value of the habitat for recovery or survival of proposed or listed salmonids.

## **C. Cumulative Effects**

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." For the purposes of this analysis, the general action area is the watersheds containing the project. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes.

A wide variety of actions occur within the watersheds defined within the Opinion. NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

## **VI. CONCLUSION**

NMFS has determined, based on the available information, that the proposed action is expected to restore or maintain properly functioning salmonid migratory or rearing habitat conditions within the action area. Consequently, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of the LCR steelhead, LCR chinook salmon, CR chum salmon or SW/LCR cutthroat trout or to destroy or adversely modify proposed critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, in-water construction, and habitat loss. These effects will be balanced in the long-term through the proposed mitigation. Direct mortality from this project may occur during the in-water work.

## **VII. REINITIATION OF CONSULTATION**

Consultation must be reinitiated if: The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, ODOT should contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

## VIII. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

- DEQ 1996. 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1996. ([www.deq.state.or.us/wq/303dlist/303dpage.htm](http://www.deq.state.or.us/wq/303dlist/303dpage.htm)).
- DEQ 1998. Draft 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1998. ([www.deq.state.or.us/wq/303dlist/303dpage.htm](http://www.deq.state.or.us/wq/303dlist/303dpage.htm)).
- Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 p. plus 3 appendices.
- Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F. W. Waknitz, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261 p.
- DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.
- Feist, B.E. 1991. Potential impacts of pile driving on juvenile pink (*Oncorhynchus gorbuscha*) and chum (*O. keta*) salmon behavior and distribution. University of Washington, School of Fisheries.
- Johnson, O.W., W.S. Grant, R.G. Cope, K. Neely, F.W. Waknitz, and R.S. Waples. 1997. Status review of chum salmon from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-32, 280 p.
- Johnson, O.W., M.H. Ruckelshaus, W.S. Grant, F.W. Waknitx, A.M. Garrett, G.J. Bryant, K. Neely, and J.J. Hard. 1999. Status review of coastal cutthroat trout from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-37, 292 p.

Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lieber, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R. S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-35, 443 p.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

ODFW 1996. Database -- Salmonid Distribution and Habitat Utilization, Arc/Info GIS coverages. Portland, Or. 1996. ([rainbow.dfw.state.or.us/ftp/](http://rainbow.dfw.state.or.us/ftp/)).

## **IX. INCIDENTAL TAKE STATEMENT**

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

### **A. Amount or Extent of the Take**

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of LCR steelhead, LCR chinook salmon, CR chum salmon or SW/LCR cutthroat trout because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-

term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological assessment, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of take is limited to the action area (500 feet upstream of the bridge and 1000 feet downstream of the bridge).

## **B. Reasonable and Prudent Measures**

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities within Beaver Slough, measures shall be taken to limit the duration and extent of in-water work, and to schedule such work to occur when the impacts to fish are minimized.
2. To minimize the amount and extent of incidental take from construction activities in or near the slough, effective erosion and pollution control measures shall be developed and implemented to minimize the movement of soils and sediment both into and within the slough, and to stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take from loss of in-stream habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and in-stream habitat, or where impacts are unavoidable, to replace lost riparian and in-stream function. No riprap will be used.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures shall be monitored and evaluated both during and following construction and meet criteria as described below in the terms and conditions.

## **C. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the FHWA/Columbia County must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.



1. In-water work:

- a. Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. Columbia County designs will ensure passage of fishes as per ORS 498.268 and ORS 509.605.
- b. All work within the ordinary high water mark of all anadromous fish-bearing systems, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within ODFW's in-water work period as modified for this project (July 15<sup>th</sup> to September 15<sup>th</sup>). Any extensions of the in-water work period will first be approved by and coordinated with ODFW and NMFS.
- c. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration.
- d. No pollutant of any kind (petroleum products, fresh concrete, silt, etc.) shall come in contact with the slough.
- e. Waste materials and spoils shall be placed at least 100 feet from Beaver Slough and away from any wetlands.

2. Erosion and Pollution Control

An Erosion Control Plan (ECP) will be prepared by the contractor, in cooperation with Columbia County. It will be reviewed by the County Engineer and implemented by the contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures will be sufficient to ensure compliance with all applicable water quality standards. The ECP shall be maintained on site and shall be available for review upon request.

- a. Erosion Control measures shall include (but not be limited to) the following:
  - i. The contractor will have the following on hand: 50 weed-free straw bales, 150 feet of unsupported silt fence, and 25 biobags.
  - ii. Temporary plastic sheeting for immediate protection of open areas (where seeding/ mulching are not appropriate), in accordance with ODOT's Standard Specifications.
  - iii. Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes in conjunction with seeding or prior to seeding.

- iv. Sills or barriers may be placed in drainage ditches along cut slopes and on steep grades to trap sediment and prevent scouring of the ditches. The barriers will be constructed from rock and straw bales.
  - v. Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.
- b. Effective erosion control measures shall be in-place at all times during the contract. Construction within the 5-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences) are in-place, downslope of project activities within the riparian area. Erosion control structures will be maintained throughout the life of the contract.
- c. All temporarily-exposed areas will be seeded and mulched. Erosion control seeding and mulching, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within 7 days of exposure within 150 feet of waterways, wetlands or other sensitive areas, and in all areas during the wet season (after October 1). All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.
- d. All erosion control devices will be inspected during construction to ensure that they are working adequately. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional controls will be installed as necessary.
- e. If soil erosion and sediment resulting from construction activities are not effectively controlled, the Engineer will limit the amount of disturbed area to that which can be adequately controlled.
- f. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- g. Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area. Silt fences or other detention methods will be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.

- h. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.
- i. All equipment that is used for in water work will be cleaned prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.
- j. On cut slopes steeper than 1:2, a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the rate.
- k. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic resources. Conservation of topsoil (removal, storage and reuse) will be employed.
- l. Measures will be taken to prevent construction debris from falling into any aquatic resource. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.
- m. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and DEQ's provisions for maintenance of water quality standards not to be exceeded within the Clatskanie Basin (OAR Chapter 340, Division 41). Toxic substances shall not be introduced above natural background levels in waters of the state in amounts which may be harmful to aquatic life. Any turbidity caused by this project shall not exceed DEQ water quality standards.
- n. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the County Engineer to ensure compliance with this PCP. The PCP shall include the following:
  - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pits operations, haul roads, equipment storage sites, fueling operations and staging areas.
  - ii. Methods for confining and removing and disposing of excess concrete, cement and other mortars. Also identify measures for washout facilities.

- iii. A spill containment and control plan that includes: notification procedures; specific clean up and disposal instructions for different products; quick response containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
    - iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
    - v. The person identified in 00280 as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
  - o. Areas for fuel storage and servicing of construction equipment and vehicles will be located at least 300 feet away from Beaver Slough. Once the excavator is placed at the bottom of the slope, it can be refueled at that location. However, the contractor must write stringent protection measures in the Spill Prevention and Countermeasures Plan so that spill control supplies are available on the riverbank before the excavator is lowered. Overnight storage of vehicles must occur at least 150 feet away from Beaver Slough.
  - p. Hazmat booms will be installed in all aquatic systems where:
    - i. Significant in-water work will occur, or where significant work occurs within the 5-year floodplain of the system, or where sediment/toxicant spills are possible.
    - ii. The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient ).
  - q. Hazmat booms will be maintained on-site in locations where "diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
  - r. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. Riparian Habitat Protection
- a. Where appropriate, boundaries of the clearing limits will be flagged by the project inspector. Ground will not be disturbed beyond the flagged boundary.
  - b. Alteration of native vegetation will be minimized. Whenever trees or shrubs must be removed during the course of the project, the above ground portion of the vegetation

will be pruned or cut so that the roots are left intact. This will reduce erosion while still allowing room to work.

- c. Riparian understory and overstory vegetation removed will have a replacement rate of 1.5:1. Replacement will occur within the project vicinity where possible. Any disturbed riparian areas must be planted with trees and shrubs, at a minimum.

#### 4. Monitoring

- a. NMFS requests monitoring of the erosion control measures as described above in 2(d).
- b. All significant riparian replant areas will be monitored to insure the following:
  - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
  - ii. Plantings are performed correctly and have an adequate success rate.
- c. Failed plantings and structures will be replaced, if replacement would potentially succeed.
- d. By December 31 of the year following construction, FHWA/Columbia County shall submit to NMFS (Oregon Branch), a monitoring report with the results of the monitoring required in terms and conditions (4(a) to 4(c) above) of the above reasonable and prudent measures.